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ABSTRACT

A study examined a proposed family process model that links family financial resources to academic competence and socioemotional adjustment during early adolescence. Subjects were 90 9-to-12-year-old African American youths and their married parents, all of whom lived in the rural southeastern United States. The theoretical constructs in the model were measured via a multimethod, multi-informant design. Rural African American community members participated in the development of the self-report instruments and observational research methods. Results indicated that fewer family resources led to depression and decreased optimism in both parents and resulted in the disruption of parental co-caregiving support. This disruption had adverse consequences for youths by interfering with their development of self-regulation, which in turn negatively influenced their academic competence and socioemotional adjustment. (Contains 52 references, and two tables and two figures of data.) (Author/RS)

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Financial Resources, Parent Psychological Functioning, Parent Co-Caregiving, and Early Adolescent Reading Competence in Rural Two-Parent African American Families

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READING RESEARCH REPORT NO. 20
Spring 1994

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About the National Reading Research Center

The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

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Reading Research Report No. 20
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Financial Resources, Parent Psychological Functioning, Parent Co-Caregiving, and Early Adolescent Reading Competence in Rural Two-Parent African American Families

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Abstract. We proposed a family process model that links family financial resources to academic competence and socioemotional adjustment during early adolescence. The sample included 90 9-to-12-year-old African American youths and their married parents, all of whom lived in the rural southeastern United States. The theoretical constructs in the model were measured via a multimethod, multi-informant design. Rural African American community members participated in the development of the self-report instruments and observational research methods. We found that fewer family resources led to depression and decreased optimism in both parents and resulted in the disruption of parental co-caregiving support. This disruption had adverse consequences for the youths by interfering with their development of self-regulation, which in turn negatively influenced their academic competence and socioemotional adjustment.

For most of this century, the potential influence of the family on children's literacy development has been overlooked. This is understandable, because in 1910 at the beginning of the era of universal public education in this country, the major responsibility for educating all children in society was removed from the home and assigned to a social institution, the school. Under this system, the task of promoting intellectual development became the school's responsibility.

In the early 1960s, the primacy of the school's role in promoting literacy and cognitive growth was challenged. Dave (1963) and Wolfe (1964) identified a number of child-rearing practices that they believed would stimulate children's cognitive growth. Their studies revealed a high correlation between home activities, such as reading to children, and achievement in school. Combined with the classic investigations by Hess and Shipman (1965), which also suggested that parental child-rearing behavior could have an impact on cogni-

tion, this research led social scientists to reevaluate the role that parents play in promoting literacy.

The belief that cognitive and linguistic growth take place primarily in the classroom is outdated. Children learn cognitive and literacy skills in a variety of contexts, from an array of social agents to which they are exposed throughout their development (Rosenthal & Zimmerman, 1978). A child is exposed not only to parental influence, but also to behavior displayed by extrafamilial adults, siblings, peers, and models presented in media such as television. Literacy acquisition is thus influenced by an ecological system that includes the child's family, the child's peer group, and societal institutions, including school.

We suggest that both family socialization practices and teacher instruction are involved in the socialization of literacy. Although society ostensibly assigns the teacher specific responsibility for the cognitive domain and the parent specific responsibility for the social domain, there is obviously considerable overlap in function. In reality, teachers concern themselves with the development of social skills and self-control, and parents have an enormous impact on literacy and language acquisition. From our vantage point, the terms *education* and *socialization* are interchangeable. This commonality between education and socialization makes the teacher function as a parent, and the parent as a teacher. Parents are, after all, the first and perhaps the most important teachers of their own children. Accordingly, in this technical report, we describe the influences of family processes on variations in reading and other competencies among rural African American youth.

In this report, we propose that the family processes that promote reading competence are themselves affected by the parents' psychological functioning and by the quality of the family relationships within which the youth's development is embedded. To date, the literature on family contributions to reading competence have focused on parent-child interactions (typically with preschool-aged children) in literacy-promoting contexts (cf. Sulzby & Teale, 1990; Wigfield & Asher, 1984). These studies have not addressed those factors that have an **indirect** impact on reading competence, via their impact on family relationships.

We also propose that reading ability must be studied alongside other abilities and indices of youth functioning. Despite the emphasis on educating the "whole child," research efforts have focused primarily on family experiences that are associated with literacy acquisition, without considering that the same processes also affect the development of mathematical skills and emotional functioning. In this report, therefore, we focus on those family processes that are hypothesized to promote not only reading competence, but also mathematical competence and socioemotional functioning.

Although migration from rural to urban areas and from the South to the North has concentrated large proportions of the African American population in northern cities, one million of these families still live in the rural southeastern United States (Orthner, 1986). Many of these families are faced with adverse environmental conditions and are at risk for unemployment, low wages, low educational levels, substandard housing, and high infant mortality rates (Coward & Smith, 1983; Orthner, 1986).

In spite of such great adversity, many rural African American families possess important strengths. They are more likely than those living in urban areas to live in two-parent households, even at poverty levels (Dietrich, 1973; French, 1977; Hawkes, Kutner, Wells, Christopherson, & Almirol, 1981). African American fathers often are involved in child rearing, and men and women in African American families tend to share household chores. Rural African American women, however, still assume more responsibility for these tasks (Tolson & Wilson, 1990). These families also have strong extended kin networks, which support family members in need (Hawkes et al., 1981); evidence suggests that such ties are more prevalent among rural than urban African American families

(Donnenworth, Guy, & Norvell, 1978; Dietrich, 1973). Many African American rural families are extended, interconnected kinship networks, which provide economic and instrumental assistance and cooperation (Tienda & Angel, 1982), nurturance, socialization, and a cultural identity (Hawkes, et al., 1981; Shimkin, Louie, & Frate, 1978).

To date, very little attention has been given to understanding the ways in which rural poverty or the availability of financial resources affect personal well-being, family functioning, and youth outcomes among African Americans. Although half of the 10 million African American households in the United States were headed by a married couple in 1990 (U.S. Bureau of the Census, 1992), with an even higher percentage among those living in rural areas, most research on African American families has focused on single-mother-headed households. Such a focus inadvertently contributes to stereotypical impressions about African American families, without providing information on the diversity of African American families and youth and their responses to poverty and economic stress. For rural African American families, the challenge of overcoming the environmental obstacles associated with poverty and economic stress can be even greater than that faced by urban families, because rural areas frequently lack the facilities, amenities, health care resources, and other services that are often available to urban families (Orthner, 1986).

In this study, we examined the mediating role that family processes play in linking family financial resources to reading and mathematics competence and to socioemotional adjustment among rural African American youth during early adolescence. The proposed model is consistent with findings from recent analyses of the influence of financial stresses on family processes and youth outcomes (Conger et al., 1990; Conger et al., 1992). Most of these studies, however, have focused on white families. It is not known whether similar relationships will emerge among other groups, particularly those living in rural areas.

Financial Resources and Competence Among Rural African American Youth

In Figure 1, we present an overview of the conceptual model that guided this research. In this model, family financial resources were measured using family per capita income (the family's annual income divided by the number of people in the household) to determine the amount of money available to support each person. Wilson (1984) used per capita income in a study of African American extended families' and this measure detected differences in socioeconomic levels that were not revealed when other measures were used. We postulated that low per capita income would be associated with more depressive symptoms and less optimism among parents. Parental mood, in turn, was proposed as the indirect link through which financial resources would influence parental co-care-giving relationships: Parents who are less depressed and more optimistic would be more likely to provide one another with instrumental and emotional support on child-rearing tasks. In turn, we predicted that nonsupportive and conflicted co-caregiving relationships would indirectly affect youths' academic and socioemotional outcomes, by rendering more difficult the youths' development of the self-regulatory competencies that we proposed would be associated with academic and socioemotional development.

In our conceptual model (see Figure 1), we predicted that elevated levels of parental depressive symptoms would interfere with the maintenance of supportive and communicative parental co-caregiving relationships. The literature provides considerable support for these hypothesized processes. The chronic stresses associated with inadequate financial resources have been shown to be associated with parents' self-reports of elevated levels of depressive symptoms, which presumably arise from the stress, anger, frustration, and loss of control associated with chronic economic pressures (Bruce, Takeuchi, & Leaf, 1991; Kessler, 1982; McLoyd, 1990). Elevated levels of parental

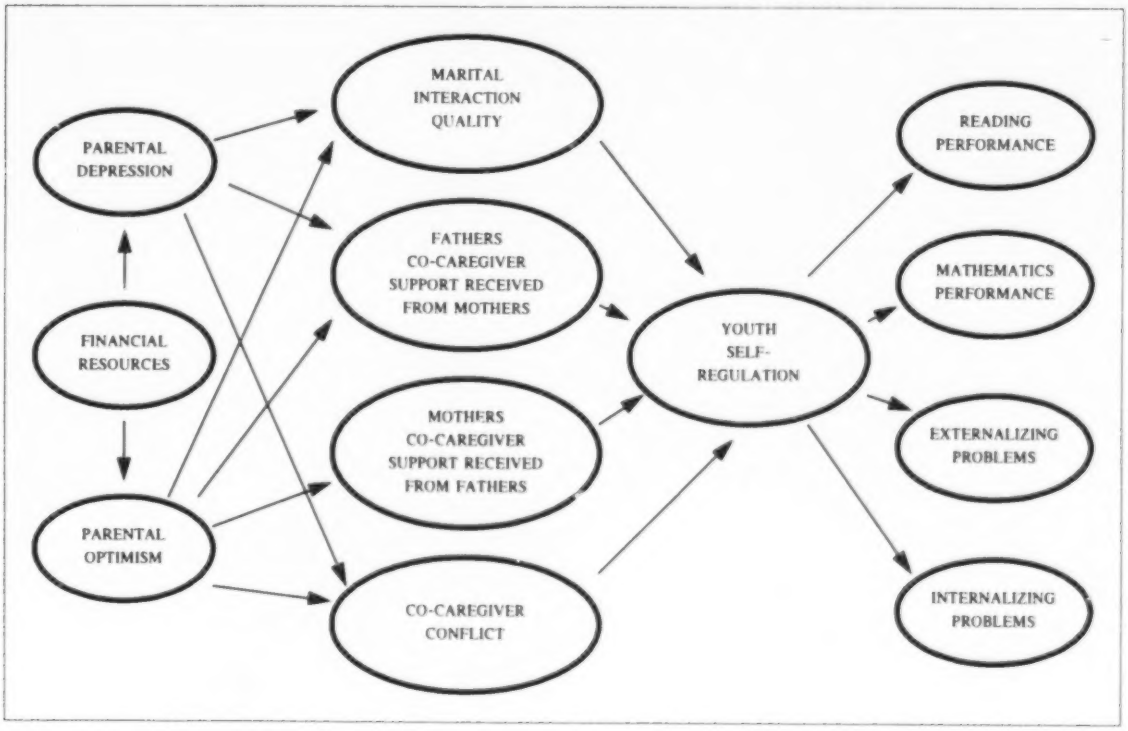

Figure 1. The Conceptual Model

depression, in turn, have been associated with less involved, less communicative, and more negative and hostile family relationships (Rutter, 1990; Susman, Trickett, Iannotti, Hollenbeck, & Zahn-Waxler, 1985). None of these investigations, however, has documented these links among married rural African American families.

Another important limitation in this existing research is its almost exclusive focus on depression. There are other personality dimensions through which the influence of financial resources on family processes may be mediated, one of which is optimism (Scheier & Carver, 1992). Optimism scores among white adults have been found to correlate positively with measures of internal control and self-esteem, and negatively with measures of depression and hopelessness (Scheier & Carver, 1985). Optimism levels have been found to be stable across assessments separated by 3 years (r = .69; Scheier & Carver, 1992) and to contribute unique variance to psychological well-being over and above that provided by depression (Carver & Gaines, 1987). Of particular relevance to this study are data suggesting that people who are more optimistic cope in more adaptive ways than do those who are less optimistic. They are more likely to take direct action to solve their problems, are better prepared to deal with adversity, and are more focused in their coping efforts (Seligman, 1991). Thus, we proposed that limited financial resources will also indirectly affect parental co-caregiving by inducing less optimistic outlooks among parents. Those who experience lower optimism levels will be less likely to provide one another with the emotional support that is an integral

component of the parental co-caregiving relationship.

We predicted that supportive and communicative co-caregiving would be the pivotal process connecting earlier steps in the model to youth self-regulation and to academic competence and socioemotional adjustment. The parental co-caregiving construct includes three dimensions that are hypothesized to positively influence youth outcome: (a) caregiver instrumental and emotional support, (b) caregiver conflict over child-rearing issues, and (c) marital interaction quality. Parental co-caregiving functions optimally when parents display congruence on child-rearing practices, communicate with one another about child-rearing, and support one another instrumentally and emotionally on child-rearing tasks (cf. Belsky, 1990). The ways in which spouses relate to one another in the child's presence is also an important aspect of co-caregiving. Harmonious and communicative interaction styles promote child competence and maturity, whereas conflicted styles are associated with academic difficulties and adjustment problems (Grych & Fincham, 1990). Earlier studies have documented the enhancement of effective parenting in African American families by social support networks that provided both emotional and tangible help (Stevens & Duffield, 1986; Wilson, 1984). This enhancement is especially likely when a grandmother or another adult partner is involved in co-caregiving (Brown & Gary, 1985; Lewis, 1989).

The empirical literature on both African American and white families with early adolescent offspring includes few studies of the psychological processes that mediate the impact of family processes on reading and mathematics competence and on socioemotional adjustment. In our model, we hypothesized that parental co-caregiving would impact the adolescent's outcomes through its effect on the development of self-regulation, which includes the ability to set and attain goals, to plan actions and consider their consequences, and to persist. In turn, self-regulated African American youths would be likely to display greater reading and mathematics competence, as well as fewer externalizing and internalizing adjustment problems. This hypothesis was derived from the work of Greenberg (1982) and Steinber, Elmen, and Mounts (1989), who found that differences in self-regulation differentiate academically, socially, and emotionally competent adolescents beyond influences attributable to social class or academic ability.

In the following analyses, we empirically evaluated our model of financial resources, family processes, and adolescent adjustment for a sample of rural African American adolescents living in two-parent families. Rural African American community members participated in the development of the self-report and observational research methods; this collaborative effort resulted in the multimethod, multi-informant research design described in the following sections.

METHOD

Subjects

Ninety African American families with married parents and a 9- to 12-year-old first-born child (48 females and 42 males) were recruited from nonmetropolitan counties in Georgia and South Carolina. As defined by the U.S. Bureau of the Census, nonmetropolitan counties may include urbanized areas with populations of 20,000 or more; this sample, however, was drawn from areas with towns of less than 2,500 population. Only counties in which 25% or more of the population was African American were sampled, in order to ensure that a viable African American community existed in the county. Families were recruited through schools, churches, and community contacts. An African American staff member made contacts with African American community members, such as pastors and teachers, and explained the research project to them. After community members understood the purposes of the project and developed

Table 1. Means, Standard Deviations, and Ranges for Demographic Variables

Demographic Variable	M	SD	Range
Total family income	29,322	11,820	2,500–57,500
Family per capita income	5,678	2,576	356–13,500
Mother's age	34	5.14	26–52
Father's age	37	6.11	25–57
Youth's age	11	1.59	9–12
Mother's education[a]	4.29	1.23	1–6
Father's education[a]	3.82	1.28	1–6
Family size	2.22	1.01	1–6

[a] 1 = less than high school, 2 = high school graduate, 3 = high school equivalence diploma, 4 = technical training, 5 = junior college, 6 = college graduate

trusting relationships with the staff member, the community members contacted prospective participant families and informed them about the purpose of the project. Each community contact gave to the research staff member the names of families who expressed interest in the project, and the staff member contacted the families. Each family was paid $60 for their participation in the study. To enhance rapport and cultural understanding, African American students majoring in a variety of subjects served as home visitors to collect data from the families. Approximately half the visitors were graduate students and half were undergraduates. Prior to data collection, the visitors received one month of training in administering the self-report instruments and in observational procedures.

Of the 90 participant families, 17 had a per capita income of $3,000 or less ($M$ = $1,906). This, according to criteria established by the Census Bureau (U.S. Bureau of the Census, 1992), places them in the first quintile for household income, which the bureau defines as poverty status. The mean total family annual income of this group was $11,882, which was below the poverty-line criterion of $12,195 set by the Census Bureau (U.S. Bureau of the Census, 1992). The largest group, which included 52 families, placed in the Census Bureau's third income quintile with an average per capita income of $5,515. The 21 remaining families' average per capita income of $9,044 placed them in the Census Bureau's fourth income quintile. These data indicate that the sample included an economic cross section of rural married African American families. Total family annual income ranged from $2,500 to $57,500, and per capita income ranged from $357 to $13,500. Table 1 presents the means, ranges, and standard deviations for each demographic variable.

In many families in each group, one or both spouses worked two jobs, and mothers and fathers

often worked different shifts. Although this scheduling may make it more likely that at least one parent will be at home with the child, the parents consequently spend a minimal amount of time at home together. Such long working hours are apparently necessary to provide for the families' needs, given the low wages that the parents earn. In the impoverished group, four fathers and four mothers were unemployed (two fathers and one mother were unemployed because of disability). At least one parent, however, was employed in each family living in poverty.

Development of Measures with the Assistance of Community Members

We were concerned about the accurate assessment of the population we were to study, because most instruments used to evaluate family processes and individual outcomes have been developed for use with, and standardized on, white, middle-class families. Consequently, the available measures may not validly describe family dynamics among rural African Americans. We dealt with this issue through the formation of focus groups comprised of rural African American community members. Most of the group members served as peer agents for two state agencies housed on the University of Georgia campus: the Expanded Food and Nutrition Education Program and the Governor's Energy Education Program. Some of these agents recommended other African American community leaders for participation. The final focus group included 40 people from throughout Georgia, who were representative of the population we planned to study. The group addressed two measurement issues, the first of which concerned the development of valid self-report instruments. Each group member rated each instrument that we planned to use on a 5-point Likert scale ranging from (1) *not appropriate* for rural African American families through (3) *appropriate* to (5) *very appropriate*. Those instruments that attained a mean rating of at least 3.5 were retained. The focus groups reviewed each item and suggested wording changes, as well as the deletion of items that they perceived as unclear or irrelevant to rural African Americans.

Another issue concerned our plan to videotape family interactions. In past projects, we have found videotaping to be essential to the close study of family relationships. The focus group suggested that this procedure be made as nonthreatening as possible by recording no interactions involving finances or other sensitive information. From a list of activities in which families had been videotaped in past studies, the group selected game playing as the context that the families would consider most acceptable. In addition, during the first home visit, the project staff clearly explained the videotaping procedure and the reasons for its use, strongly emphasizing its confidentiality. The staff also gave particular attention to establishing rapport and putting the families at ease, a process that was emphasized throughout the project. The majority of the families freely cooperated with the taping, and only two recruited families declined to participate in the study because of it.

Procedure

Three home visits, each lasting 2 to 3 hours, were made to each family, arranged as closely to a week apart as the families' schedules allowed. African American students visited the families in teams of two, one male and one female, in order to give both parents someone with whom they could identify and to whom they could comfortably relate. During home visits, therefore, the male researcher worked primarily with the father, and the female researcher with the mother and child. During the first visit, informed consent forms were completed. The parents consented to their own and their child's participation in the study, and the child consented to his or her own participation. The parents also provided the name and location of the child's school and authorized the child's teacher to provide the researchers with information concerning the child's school performance. The following demographic information was also gathered from

separate interviews with mothers and fathers: total household income, income sources, adult household members' employment status, and parents' occupations and educational levels.

During all three visits, family members were videotaped while playing the board game Trouble (Gilbert Industries) for 15 minutes. Trouble is a game in which players move pegs around a board in accordance with numbers rolled on a die; the player who gets all of his or her pegs into a "finish line" first wins. We have used this activity extensively in our research on parent-child and sibling relations, because we have found it to be both understandable and interesting to children in the age ranges with which we have worked. The focus group of community members also endorsed its use in this study, because of its familiarity to the families in our sample. The target child played the game with one parent during the first visit, and with the other parent during the second visit. The order in which the parents participated was counterbalanced in order to avoid possible confounds. On the third visit, both parents and the child played Trouble together. Two parent-child dyadic interactions and one mother-father-child triadic interaction were thus recorded. From the triadic interaction, data were obtained to assess marital interaction quality.

On the third visit, the family was videotaped while discussing an issue that had been presented to them individually by the researchers. Each family member was escorted to a different room and responded to the question "We know that many children in this community live in homes where families are poor. Some of these children do well in life, others do not. What is the difference between children who make it in life, and those who do not?" The family members then gathered in their living room, and the researchers asked them to share and discuss their answers. The researchers then left the room and were not present during the discussions, which lasted an average of 10 minutes. This task, designed in accordance with key methodological considerations in current family problem-solving research, simulated a natural context in which families often engage. In this paper, only data on the parents' relationship with one another are reported from these triadic interaction contexts.

During each home visit, self-report questionnaires were administered to each parent and the target child in an interview format. Each interview was conducted privately between the family member and a researcher, with no other family members present or able to overhear the conversation. At no time during the presentation of the self-report instruments did the researchers assume that a family member could read. This literacy concern was one of the reasons for presenting the questionnaires in an interview format. When responses to a Likert scale were required, the family member was shown a card with a series of dots in graduated sizes that corresponded to the magnitude of the responses from which he or she was to choose; the researcher asked the family member to indicate an answer using the dots on the card.

To collect the data needed to evaluate the child's functioning in the majority culture, each child's classroom teacher was mailed assessment instruments with a cover letter, a copy of the signed consent form, and a stamped return envelope. Follow-up phone calls were made and letters were sent to the teachers, if they had not returned their questionnaires after 2 weeks.

Measures

Family financial resources. A single indicator was used as a measure of financial resources, each family's per capita income. Per capita income was calculated as the family's total annual income divided by the number of people living in the household. The total family income was derived by averaging the husband's and wife's reports, which were found to correlate significantly ($r = .71, p < .001$). The two reports were averaged to create a more reliable index of family financial resources.

Parental depression. Depression was assessed using a single indicator comprised of 16 items from the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), which is widely used with community samples. The CES-D depression subscale contains items that were rated on a 4-point Likert-type scale, indicating how often in the last 2 weeks the individual experienced the various symptomatic events, ranging from *rarely or none of the time (less than 1 day)* to *most or all of the time (5-7 days)*. A sample of the items included "How often did you feel like not eating; had a poor appetite?" "How often did you feel that everything you did was an effort?" and "How often did you feel that you could not shake off the blues?" The Cronbach alphas for mothers' and fathers' reports were .87 and .88, respectively.

Parental optimism. Optimism was assessed through the use of two indicators: mothers' and fathers' scores on the optimism subscale of the CES-D, and Rosenberg's Self-Esteem Scale (Rosenberg, 1965). The optimism subscale of the CES-D contains 4 items that were rated on a 4-point Likert-type scale, indicating how often in the last 2 weeks the individual had experienced a given event. The 4 items were (a) "How often did you feel you enjoy life?" (b) "How often were you happy?" (c) "How often did you feel hopeful about the future?" and (d) "How often did you feel you were as good as other people?" Cronbach alphas for mothers' and fathers' were .59 and .64, respectively.

The Rosenberg Self-Esteem Scale contains 10 items that were rated on a 5-point Likert-type scale, ranging from *completely false* to *completely true*. A sample of the items included "I feel that I'm a person of worth, at least on an equal basis with others," "I take a positive attitude towards myself," and "On the whole, I am satisfied with myself." The Cronbach alphas for mothers' and fathers' reports were .78 and .82, respectively.

As can be seen in Table 2, the factor loadings of the two indicators of parental optimism (CES-D optimism subscale score and the Rosenberg-scale score) were high and the saturation was moderately high (.79 and .92 for fathers, .68 and .92 for mothers). These data support previous research indicating considerable overlap between optimistic outlooks and positive views of the self (Scheier & Carver, 1985).

Co-caregiver support received from spouse. Co-caregiver support was assessed independently by fathers and mothers, using two indicators: The communication and support subscales of Ahrons's (1981) Quality of Co-parenting Scales (revised). On this instrument, a 5-point Likert-type format is used to indicate the frequency of agreement on parenting issues. Possible responses range from *never* to *always*. A sample of the 6 communication items used in our study included "How often do you and your spouse talk about your child's accomplishments and progress?" and "How often do you and your spouse discuss school or medical problems together?" Estimates of internal consistency ranged from .81 for mothers to .82 for fathers.

The 3 items used to indicate co-parenting support were (a) "When you need help with this child, how often do you go to your spouse for help?" (b) "Would you say that your spouse is a help to you in raising your child?" and (c) "Would you say you are a help to your spouse in raising your child?" Estimates of internal consistency ranged from .55 for mothers to .60 for fathers.

Co-caregiver conflict. Co-caregiver conflict was assessed independently by mothers and fathers, using two indicators: the conflict subscale of Ahrons's (1981) Quality of Co-parenting Scales (revised) and the O'Leary-Porter Scale. Estimates of internal consistency ranged from .60 for mothers to .68 for fathers.

On Ahrons's co-parenting conflict scale, a 5-point Likert-type format is used to indicate frequency of agreement with respect to parenting issues. Possible responses range from *never* to *always*. The scale included 3 items: (a) "When you and your spouse talk about how to raise the child, how often is the conversation hostile or an-

Table 2. Component Loadings on Manifest Varables by Mother and Father Models

	Mothers	Fathers
Financial Resources		
Family Per Capita Income	1.00	1.00
Depression		
Depression Subscale (CES-D)	1.00	1.00
Optimism		
Optimism Subscale (CES-D)	0.68	0.79
Rosenberg Self-Esteem Scale	0.92	0.92
Fathers' Co-Caregiver Support Received from Mothers		
Communication Subscale (Ahrons's Quality of Co-Parenting Scale)	0.78	0.87
Support Subscale (Ahrons's Quality of Co-Parenting Scale)	0.86	0.76
Mothers' Co-Caregiver Support Received from Fathers		
Communication Subscale (Ahrons's Quality of Co-Parenting Scale)	0.72	0.80
Support Subscale (Ahrons's Quality of Co-Parenting Scale)	0.91	0.85
Co-Caregiver Conflict		
Conflict Subscale, Mothers (Ahrons's Quality of Co-Parenting Scale)	0.83	0.68
Conflict Subscale, Fathers (Ahrons's Quality of Co-Parenting Scale)	0.41	0.77
Conflict Scale, Mothers (O'Leary-Porter Scale)	0.86	0.60
Conflict Scale, Fathers (O'Leary-Porter Scale)	0.42	0.71
Marital Interaction Quality		
Harmony—Behavioral Observation Ratings	0.79	0.85
Engagement—Behavioral Observation Ratings	0.85	0.59
Warmth—Behavioral Observation Ratings	0.75	0.63
Communications—Behavioral Observation Ratings	0.68	0.92
Youth Self-Regulation		
Self-Control Subscale, Mothers (Self-Control Inventory)	0.76	0.76
Self-Control Subscale, Fathers (Self-Control Inventory)	0.52	0.52
Self-Control Subscale, Teachers (Self-Control Inventory)	0.78	0.78
Reading Competency		
Actual School Grades	0.80	0.80
(WISC-R) Vocabulary Subscale	0.61	0.61
Parental Grade Expectation, Mothers	0.78	0.78
Parental Grade Expectation, Fathers	0.62	0.62
Mathematics Competency		
Actual School Grades	0.80	0.80
(WISC-R) Arithmetic Subscale	0.64	0.64
Parental Grade Expectation, Mothers	0.75	0.75
Parental Grade Expectation, Fathers	0.70	0.70
Externalizing Problems		
Conduct Disorder Subscale, Mothers (Child Behavior Checklist)	0.72	0.72
Conduct Disorder Subscale, Teachers (Child Behavior Checklist)	0.76	0.76
Antisocial Behavior Subscale, Mothers (Self-Control Inventory)	0.78	0.78
Antisocial Behavior Subscale, Teachers (Self-Control Inventory)	0.84	0.84
Conduct Grade Expectation Ratings, Teachers	0.56	0.56
Internalizing Problems		
Child Depression Inventory Ratings, Mothers	0.90	0.90
Child Depression Inventory Ratings, Fathers	0.65	0.65

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gry?" (b) "Do you and your spouse have big differences of opinion as to how to raise your child?" and (c) "When your child complains about your spouse, how often do you usually agree with your child?"

To assess frequency of interparental conflict in the presence of children, mothers and fathers completed the O'Leary-Porter Scale (OPS; Porter & O'Leary, 1980). The OPS is a 10-item scale witha 5-point Likert-type format that ranges from *never/ very little* to *a lot*. A sample of the items included "How often has your child heard you and your spouse argue about the wife's duties, such as housework or her job?" "How often do you complain to your spouse in front of your child about the this [the spouse does]" and "How much do you argue with your spouse in front of your child?" Estimates of internal consistency ranged from .77 for mothers to .87 for fathers.

Marital interaction quality. Marital interaction quality was assessed using 4 observed behavioral indicators: harmony, engagement, communication, and warmth. African American student assistants received a minimum of 10 hours of training in observational coding, which included study and discussion of the coding category definitions and observation of videotaped family interactions. The coders worked in teams of two, viewing the videotapes and independently rating the interactions on the following dimensions: (a) the Conflict-Harmony scale, ranging from (1) *conflicted* (relationships among the family members are hostile and tense, with frequent displays of negative verbal and nonverbal behavior) to (7) *harmonious* (relationships are warmly supportive; dialogue is relaxed; members clearly work together to resolve issues; tone is friendly); (b) the Engagement scale, ranging from (1) *not engaged* (family members do not speak to one another or interact nonverbally) to (7) *engaged* (family members frequently talk to each other and interact nonverbally); (c) the Communication scale, ranging from (1) *not at all characteristic* (family members rarely explain or clarify their remarks to make themselves understood) to (5) *highly characteristic* (family members virtually always explain and clarify their remarks to promote understanding); and (d) the Warmth scale, ranging from (1) *not at all characteristic* (family members rarely or never display examples of warmth and involvement) to (5) *highly characteristic* (family members actively display high levels of concern, support, praise, encouragement, touching, eye contact, etc.). The codes were designed to focus on the interacting couple as a dyad, so that the couple, not the individuals, would be the focus of the analyses. Because couple interactions took place in two task settings, the scores for each setting were averaged across tasks to increase the reliability of the assessments (Epstein, 1979). Coders did not rate any families whose homes they had visited.

Reliability was calculated using split-half, Spearman-Brown coefficients, computed for each possible pair of observers. Mean agreement scores were calculated across subjects for each pair, and across all pairs, of observers. Estimates of reliability between raters for each code were conflict-harmony scale = .86; engagement scale = .96; communication scale = .97; warmth scale = .87.

Youth self-regulation. Self-regulation was assessed using the self-control subscale of the Children's Self-Control Scale (Humphrey, 1982). This subscale contains 5 items that were rated on a 5-point scale by mothers, fathers, and teachers. The items were (a) thinks ahead of time about the consequences of his or her actions, (b) plans ahead before acting, (c) pays attention to what he or she is doing, (d) works toward goals, and (e) sticks to what he or she is doing, even on long, unpleasant tasks, until finished. The Cronbach alphas for mothers, fathers, and teachers were .80, .71, and .92, respectively.

Reading competency. Assessments of reading competency included reading grades assigned by teachers (A, B, C, D, F), mothers' and fathers' reading grade expectations (A, B, C, D, F), and the youths' scores on the vocabulary subscale of the Wechsler Intelligence Scales for Children - Re-

vised (WISC-R). The latter measure was administered individually to the target youth in his or her home.

Mathematics competency. Mathematics competency was assessed in a manner similar to reading competency. Measures included mathematics grades assigned by teachers, mothers' and fathers' mathematics grade expectations, and the youths' scores on the mathematics subscale of WISC-R.

Externalizing problems. Externalizing behavior patterns are characterized by angry, disruptive behavior. Mothers, fathers, and teachers completed the 10-item conduct disorder subscale from the Revised Behavior Problem Checklist .(RBPC; Quay & Peterson, 1987). The Cronbach alphas exceeded .90 for both parents and teachers in this sample. Parents and teachers also completed the antisocial behavior subscale from the Self-Control Inventory (SCI; Humphrey, 1982). Cronbach alphas for parents exceeded .70, and for teachers, .90. The teacher-assigned classroom conduct grade (A, B, C, D, F) was included as an additional indicator.

Internalizing problems. Mothers, fathers, and teachers completed a revised version of the Children's Depression Inventory (CDI; Kovacs, 1981). This instrument consists of 27 items, each of which allows respondents to select alternatives on a 3-point scale reflecting degrees of particular symptoms. Cronbach alphas for mothers and fathers in this sample were .78 and .70, respectively.

RESULTS

Latent Variable Path Analysis with Partial Least Squares (LVPLS) estimation procedures were used to examine the hypothesized relationships depicted in the theoretical model (see Figure 1; Lohmoeller, 1989; Lohmoeller & Wold, 1984). LVPLS is part of a family of statistical procedures known as component analyses, of which principal component analysis and canonical correlation are most well-known.

Structural equation modeling with partial least squares was developed by Wold (1975; Joreskog & Wold, 1982) for situations in which data do not meet the restrictive assumptions of maximum likelihood estimates (see Falk & Miller, 1991; Fornell & Bookstein, 1982; Ketterlinus, Bookstein, Sampson, & Lamb, 1989). It allows for mixed-measurement level multivariate data analysis within a single model.

As a form of data reduction, manifest variables are combined into theoretical components, resulting in multiple measurement of latent components. This capitalizes on the advantages of composited variables based on shared variance. Only with family financial resources and maternal and paternal depression are single measures employed. The LVPLS program uses composite weights to create latent variables and to optimize linear relationships between predictor and predicted components. Paths between the theoretical constructs are standardized path coefficients or beta weights. Two models were evaluated, one that included maternal depression and optimism constructs and the other paternal. Although our analytic procedures allow for the analysis of relatively small samples, they require an adequate number of subjects for the number of composite variables in the model. Accordingly, separate models were executed for mothers and fathers. T-tests were used to determine whether the composited measures of youth self-regulation, reading performance, mathematics performance, externalizing problems, and internalizing problems differed by youth gender. Gender differences were not detected on any of the composited variables; thus, the models were not executed separately by gender of child.

The measurement model has a mean commonality (h^2) of .57 for mothers and .58 for fathers. The factor loadings of the manifest variables on their respective latent constructs are presented in Table 2. These may be considered approximations of first principal component loadings, because they also take into account the hypothesized relations among the latent variables. Loadings on financial

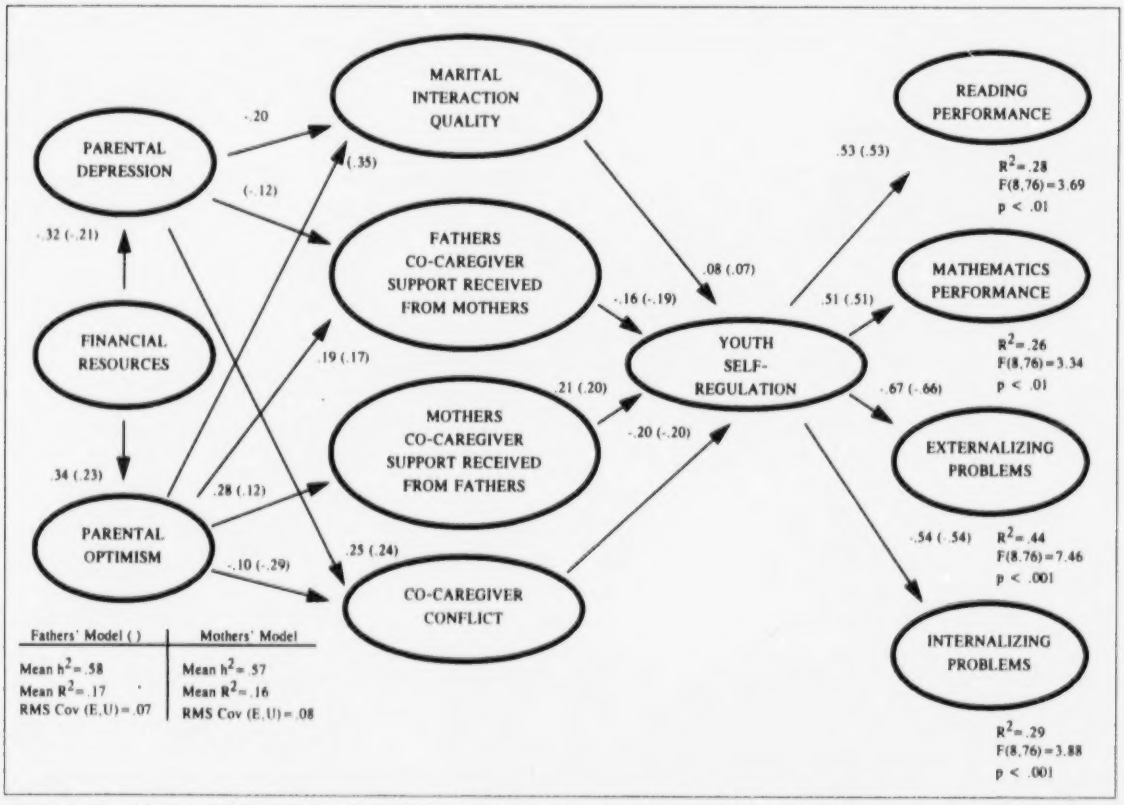

Figure 2. The influence of family economic resources on fathers' and mothers' co-caregiving, mediated by parental depression and optimism (coefficients in parentheses are for fathers, those not in parentheses are for mothers), and the influence of parental co-caregiving on academic competence and adjustment outcomes,mediated by youth self-regulation.

resources and depression, measured by a single manifest variable, are necessarily 1.0. In the theoretical model presented in Figure 2, the variance accounted for (mean R^2) for the three endogenous variables is .32; R^2s are statistically significant and range from $p < .001$ to $p < .05$. Overall, the models fit the data quite well. The root mean square of the covariance between the residuals of the manifest and latent variables, RMS COV (E, U), is .08 for the maternal model and .07 for the paternal model. This index reports the amount of correlation between the variables not accounted for by the model specifications.

The findings presented in Figure 2 indicate that the direct effect of financial resources is negative on parental depression and is positive on parental optimism. Within the context of the model relationships, greater family financial resources predicted lower parental depression levels and higher parental optimism levels. An indirect effect also emerged between family resources and the parent co-caregiving constructs, through parental depression and optimism. In the theoretical model (see Figure 1), we postulated that family financial resources would indirectly affect parental co-caregiving through their influence on parents' depressed mood and optimism. These findings are consistent with this perspective.

Maternal depression was negatively linked with marital interaction quality and positively

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linked with co-caregiver conflict. Greater paternal depression was linked with lower levels of co-caregiving support received from mothers and with higher levels of co-caregiving conflict. As was the case for parental depression, family financial resources also influenced co-caregiving indirectly by fostering variations in parental optimism, which in turn was linked with co-caregiving relationship quality. In both models, higher optimism levels were associated with greater maternal and paternal co-caregiver support and with lower levels of co-caregiver conflict. Paternal optimism was also positively linked with marital interaction quality, whereas maternal optimism was not.

In addition to hypothesizing the role of parental depression and optimism as mediators between family financial resources and co-caregiving relationships, we also proposed (see Figure 1) that co-caregiving relationships would indirectly affect academic and socioemotional developmental outcomes through youth self-regulatory competence. Consistent with the theoretical model, parental co-caregiving relationship quality was related to youth self-regulatory competence, which in turn, positively affected reading and mathematics performance and negatively affected externalizing and internalizing problems. Contrary to our predictions, fathers' reports of co-caregiver support from mothers was negatively linked with self-regulation. Because data reported here are contemporaneous, it is plausible that less self-regulated youth elicit greater caregiving involvement from their mothers.

Two alternative models were tested. The first added direct paths from family financial resources to the co-caregiving relationship constructs. Consistent with the hypothesized mediational process model (see Figure 1), adding these direct paths did not improve the fit of either the mothers' or fathers' model (adding these paths, either singly or as a group, did not decrease the RMS COV [E, U] or increase the R^2 of the endogenous variables). The second model included only paths from family financial resources to the endogenous variables. The mean R^2 for the four endogenous variables for this model was .12, compared to .32 for the proposed theoretical model. Deleting the hypothesized mediational paths greatly reduces the explanatory power of the data.

DISCUSSION

Although a growing body of research focuses, in various ways, on the relationships among economic resources, family processes, and youth competencies, very few empirical studies have been conducted with African Americans, particularly those living in rural areas. Although excellent work has been done with white families, theories concerning economic stresses on families must be tested with samples that reflect a range of family contexts in order to determine the theories' generalizability. The subjects in this study represent an economic cross section of rural married African American families with a young adolescent, ranging from those living below established poverty levels to those in upper-middle class income brackets. Using this sample, the present study supports the proposed mediational model of the relationships among family economic resources, family processes, and youth outcomes.

The results of this study and others (e.g., Conger et al., 1992; Elder, 1974; McLoyd, 1990) suggest that more attention should be focused on family processes in studies of the impact of family financial resources on youths' developmental outcomes. Although research approaches focusing on the contributions of education, parents' occupational status, and income to developmental outcomes increases understanding of the covariance of these constructs, it relies on static conceptualizations that provide little insight into the *ways* in which these parameters affect youths' psychological well-being and development.

In the present study, we found co-caregiving by both parents to be involved in the link between family financial resources and adolescents' reading, mathematics, and adjustment outcomes. These

findings are particularly informative when they are considered within the context of the subjects' lives. These families live in impoverished rural areas in which very low tax revenues are generated. Consequently, minimal services are provided to families and few organized recreational activities are available for youths. In addition, in many of the families, both parents work at several jobs to earn enough money to support their families. More often than not, these jobs involve physical labor, which contributes to the parents' reports of fatigue. Because these parents arrive home quite tired and immediately assume child-rearing responsibilities while the other parent goes to work, the quality of communication and continuity between parents is perhaps more important than it is for families in other ecological niches. If these parents allow their fatigue to interfere with cooperative and supportive co-caregiving, the youth will be confronted with contradictory, confusing messages from disagreeing co-caregivers. This can stress the child's loyalties and complicate his or her attempts to discern order and predictability, both at home and in the larger ecology.

Parents' co-caregiver support is directly linked with youth self-regulation in both the maternal and paternal models. As noted, the negative association that emerged between the co-caregiving support fathers received from mothers and youth self-regulation could plausibly result from child effects; when youth evince less self-regulation, mothers may be drawn into providing fathers with more caregiving support. This process is reminiscent of a family dynamic that therapists (i.e., Minuchin, 1985) have termed *detouring*. By engaging in disorganized behavior, the youth creates a reason for the parents to support one another instead of focusing on relationship issues that can interfere with supportive co-caregiving. We are currently collecting longitudinal data on the subject families; as these data become available, direction of causality issues will be addressed.

The literature on family development to date that has addressed the interrelationships among family financial resources, parent psychological functioning, and family processes has focused on the ecology of white families. Studies of these interrelationships performed with Depression-era families suggested that economic hardship produced irritability and hostility in fathers, which spilled over into marital and parent-child relationships (Elder, 1974). Recent analyses, in which more sophisticated assessments of depressive symptoms were used, reveal economic difficulties to be associated with higher levels of depressive symptoms in both husbands and wives; this, in turn, has been linked to disruptions in marital and parent-child interactions (Conger et al., 1990; Conger et al., 1992). In the present study, links emerged among financial stress, depressive symptoms, and lower-quality marital interaction for rural African American mothers, but not fathers. Future research is needed to clarify the reasons for this difference in parental response. It is plausible that the spillover of maternal depression negatively affects wives' feelings toward their husbands, which in turn, affects marital interactions. Conversely, African American husbands may either vent their frustrations in extrafamilial contexts or devalue themselves, rather than engaging in less harmonious marital interactions. Although future research is needed to address such mediating factors, researchers must remember that, for African Americans, family relationships also may be stressed by situational factors such as racism and discrimination. Studies are needed to investigate the ways in which societal factors exacerbate the stresses associated with financial hardship.

Our findings also indicate that parental optimism serves to mediate the link between family financial resources and co-caregiving relationship quality. Optimism is linked with the provision and receipt of co-caregiving support, lower levels of conflict over child-rearing issues, and, for fathers, more harmonious marital interactions. These data suggest that an optimistic orientation may foster problem-focused, rather than person-focused, family problem-solving styles (cf., Scheier & Carver,

1992). Optimistic persons may be more likely to attribute family problems to situations that are alterable, whereas less optimistic persons may attribute family difficulties to family members' personalities, which tend not to change. Researchers should consider incorporating parental optimism in future studies, to examine the ways in which financial hardships and chronic stressors undermine the persistence that characterizes optimistic persons.

Several limitations of this study and some caveats must be noted. First, the proposed model is not intended to be exhaustive. Models that include different parameters than those included in the present model could also account for variation in the outcome assessments. In addition, although the paths between variables in the model may imply causality, at this point we can only test the extent to which the observed variables can be predicted from the hypothesized model without respect to direction of effects. Finally, our sample is nonrandom; it does, however, represent an economic cross section of rural married African American families and youth.

Conclusion

The term "family" denotes a group of people; yet most, if not all, the extant studies addressing family influences on literacy acquisition have involved one parent and one child. For a complete understanding of the ecology of family influences, future research should examine the workings of the larger family system.

We believe that most of the family environment's impact on children's literacy development occurs during the flow of natural exchanges. Family members rarely sit a child down with the intention of teaching a specific skill. Accordingly, it is important to discover the ways in which children abstract literacy-related information from the ebb and flow of life in the family milieu. Research along these lines will help us to determine families' contributions to the development of attentive readers.

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